

## MATH 603 Homework on Jordan Form

None of these problems will be graded!

(1) 5.10.4

(2) 5.10.7

(3) 7.8.2

(4) 7.8.3

(5) 7.8.5

(6) Find all  $3 \times 3$  Jordan forms,  $\mathbf{J}$ , with  $\sigma(\mathbf{J}) = \{2, 5\}$ .

(7) Find the Jordan forms of

$$\begin{pmatrix} 1 & 1 \\ 1 & 1 \end{pmatrix} \quad \begin{pmatrix} 1 & 1 \\ -1 & -1 \end{pmatrix} \quad \begin{pmatrix} 0 & 1 & 2 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{pmatrix} \quad \begin{pmatrix} 1 & 2 & 3 \\ 0 & 4 & 5 \\ 0 & 0 & 6 \end{pmatrix}$$